

[0064] What is claimed is:

1. A method comprising:
  - setting an attenuation level once per a command to set an average output power of output signals of a power amplifier; and
  - attenuating according to said attenuation level outphased modulated signals prior to amplification of said signals by said power amplifier.
2. The method of claim 1, wherein attenuating said signals comprises attenuating a first of said signals by a particular attenuation and attenuating a second of said signals by substantially said particular attenuation.
3. The method of claim 1, wherein setting said attenuation level comprises setting said attenuation level to one of two predefined attenuation levels.
4. A method comprising:
  - multiplying a first phase shifted signal by a first amplitude modulation signal with a first scaling factor to produce a first phase shifted modulated signal;
  - multiplying a second phase shifted signal with a second amplitude modulation signal to produce a second phase shifted modulated signal; and
  - generating outphased modulated signals from said first phase shifted modulated signal and said second phase shifted modulated signal.
5. The method of claim 4, wherein multiplying said second phase shifted signal with said second amplitude modulation signal comprises multiplying with a second scaling factor.
6. The method of claim 5, wherein said second scaling factor is substantially equivalent to said first scaling factor.
7. The method of claim 4, further comprising:
  - setting said first scaling factor once per a command to set an average output power of output signals of a power amplifier, said output signals generated by amplifying said outphased modulated signals by said power amplifier.

8. A method comprising:

    multiplying a phase modulated carrier signal by an amplitude modulation signal with a scaling factor to produce an amplitude modulated signal; and  
    phase splitting said amplitude modulated signal to generate phase shifted modulated signals.

9. The method of claim 8, further comprising:

    setting said scaling factor once per a command to set an average output power of output signals of a power amplifier, said output signals generated by amplifying outphased modulated signals by said power amplifier and said outphased modulated signals generated from said phase shifted modulated signals.

10. The method of claim 8, further comprising:

    setting said scaling factor at substantially half-second time intervals.

11. The method of claim 8, further comprising:

    limiting an amplified version of a first of said phase shifted modulated signals with a limiting function to generate a phase shifted limited signal.

12. The method of claim 11, wherein an amplification of said amplified version is controllable.

13. The method of claim 11, wherein said limiting function is controllable.

14. The method of claim 13, further comprising:

    controlling said limiting function based on said amplitude modulation signal.

15. The method of claim 11, further comprising:

    deriving outphased modulated signals from said phase shifted limited signal and from an amplified version of a second of said phase shifted modulated signals.

16. The method of claim 15, wherein an amplification of said amplified version of said second of said phase shifted modulated signals is controllable.

17. A transmitter comprising:

an outphasing modulator, said outphasing modulator including at least:

a multiplier to multiply an amplitude modulation signal by a phase modulated carrier signal to generate a modulated signal;

a phase splitter coupled to said multiplier, said phase splitter to phase split said modulated signal to generate phase shifted modulated signals;  
and

a sum-difference combiner coupled to said phase splitter, said sum-difference combiner to produce from said phase shifted modulated signals outphased modulated signals.

18. The transmitter of claim 17, wherein said outphasing modulator further comprises:

a limiter coupled between said phase splitter and said sum-difference combiner, said limiter to impose a limiting function on one of said phase shifted modulated signals.

19. The transmitter of claim 18, wherein said outphasing modulator further comprises:

a function generator coupled to said limiter to generate said limiting function.

20. The transmitter of claim 17, further comprising:

programmable attenuators coupled to said sum-difference combiner to attenuate said outphased modulated signals prior to amplification of said outphased modulated signals by a power amplifier.

21. A communication device comprising:

a dipole antenna; and

a transmitter including at least

an outphasing modulator, said outphasing modulator including at least:

a multiplier to multiply an amplitude modulation signal by a phase modulated carrier signal to generate a modulated signal;

a phase splitter coupled to said multiplier, said phase splitter to phase split said modulated signal to generate phase shifted modulated signals; and

a sum-difference combiner coupled to said phase splitter, said sum-difference combiner to produce from said phase shifted modulated signals outphased modulated signals; and

a power amplifier coupled to said dipole antenna and to said sum-difference combiner, said power amplifier to amplify said outphased modulated signals.

22. The communication device of claim 21, wherein said outphasing modulator further comprises:

a limiter coupled between said phase splitter and said sum-difference combiner, said limiter to impose a limiting function on one of said phase shifted modulated signals.

23. The communication device of claim 22, wherein said outphasing modulator further comprises:

a function generator coupled to said limiter to generate said limiting function.

24. A communication system comprising:

a first communication device; and

a second communication device, said second communication device including at least:

a transmitter including at least

an outphasing modulator, said outphasing modulator including at least:

a multiplier to multiply an amplitude modulation signal by a phase modulated carrier signal to generate a modulated signal;

a phase splitter coupled to said multiplier, said phase splitter to phase split said modulated signal to generate phase shifted modulated signals; and

a sum-difference combiner coupled to said phase splitter, said sum-difference combiner to produce from said phase shifted modulated signals outphased modulated signals..

25. The communication system of claim 24, wherein said outphasing modulator further comprises:

a limiter coupled between said phase splitter and said sum-difference combiner, said limiter to impose a limiting function on one of said phase shifted modulated signals.

26. The communication system of claim 25, wherein said outphasing modulator further comprises:

a function generator coupled to said limiter to generate said limiting function.